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Vivisection of Dogs.

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VIVISECTION OF DOGS

HEARING

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON THE JUDICIARY UNITED STATES SENATE

SIXTY-SEVENTH CONGRESS

FIRST SESSION

ON

S. 758

A BILL TO PROHIBIT EXPERIMENTS UPON LIVING DOGS IN THE DISTRICT OF COLUMBIA OR IN ANY OF THE TERRITORIAL OR INSULAR POSSESSIONS OF THE UNITED STATES, AND PROVIDING A PENALTY FOR VIOLATION THEREOF

JUNE 30, 1921

Printed for the use of the Committee on the Judiciary

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VIVISECTION OF DOGS.

THURSDAY, JUNE 30, 1921.

UNITED STATES SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON THE JUDICIARY,
Washington, D. C.

The subcommittee met, pursuant to the call of the chairman, at 10 o'clock a. m., in the committee room in the Capitol, Senator Samuel M. Shortridge presiding.

Present: Senators Shortridge (chairman) and Ashurst. Present also: Senator Myers.

Senator SHORTRIDGE. This subcommittee has met to consider Senate bill 758, a bill introduced by Senator Myers.

(The bill referred to is as follows:)

"[S. 758, Sixty-seventh Congress, first session.]

"A BILL To prohibit experiments upon living dogs in the District of Columbia or in any of the Territorial or insular possessions of the United States, and providing a penalty for violation thereof.

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That from and after the passage of this act it shall be a misdemeanor for any person to experiment or operate in any manner whatsoever upon any living dog, for any purpose other than the healing or curing of said dog of physical ailments, in the District of Columbia or in any of the Territorial or insular possessions of the United States.

"SEC. 2. That any person convicted of a violation of this act shall be sentenced to pay a fine of not less than $100 nor more than $500, or to undergo imprisonment for a term of not less than three months nor more than one year, or both such fine and imprisonment.

"SEC. 3. That all acts or parts of acts inconsistent herewith are hereby repealed."

Senator SHORTRIDGE. We are ready to hear from anyone who desires to appear before the committee in favor of or in opposition to the enactment of the proposed measure.

Senator MYERS. If it please the committee, I wish to present Dr. Walter R. Hadwen, a physician of Gloucester, England, who I would like to have give his views.

Senator SHORTRIDGE. Will you have the kindness to give us your name for the record, and your address.

STATEMENT OF WALTER ROBERT HADWEN, M. D., BRUNSWICK HOUSE, GLOUCESTER, ENGLAND.

Dr. HADWEN. My name is Walter Robert Hadwen; Gloucester, England.

Senator SHORTRIDGE. I would suggest that you might state your degrees.

Dr. HADWEN. Do you wish my qualifications?

Senator SHORTRIDGE. It might be well.

Dr. HADWEN. M. D. of St. Andrews University; licentiate of the Royal College of Surgeons, London; member of the Royal College of Surgeons of England; and I may say I am president of the British Union for the Abolition of Vivisection, which is, I think, the largest society of the kind in the world.

Senator SHORTRIDGE. Before you proceed further may I ask you, have you read the bill?

Dr. HADWEN. I have just read it through now, for the first time.

Senator SHORTRIDGE. Addressing yourself to this proposed measure, we will be glad to hear from you.

Dr. HADWEN. I should like, first of all, sir, to thank you for the courtesy of allowing me to speak here. I had no idea, when I came from England, that I should have had this privilege, and I am very glad indeed to have the opportunity of just stating the case for the antivivisectionists, and I will do so in the briefest possible way.

7057

I do not know what your mode of procedure may be, as to whether I shall speak and others reply and I have the opportunity of answering, but anyhow I will just very briefly put before you the fundamental principles of our action and the position that we take up in this matter.

The first and the most important point in regard to our action is, of course, unquestionably a moral one, because we consider that we have no right to do evil that good may come. And even supposing there may be benefits derived from this practice, yet we consider that it is wrong to take advantage of the weak, to take advantage of those who are in a different position; and to prey upon those in a lower position in order to gain some alleged benefit is a principle that is contrary to all idea of civilization and Christianity. And hence that position—the ideal one, indeed—is one that we press most forcibly, that those who can not possibly speak for themselves should be spoken for and should be the very first to receive consideration on the part of a constitution such as that of the United States, which demands liberty not only for itself but also for the weaker ones, whom it has always sought to protect.

That, then, roughly and briefly, is the position that we occupy in regard to the moral question in the matter.

Well, then, the next point is that our opponents will urge upon you the necessity not only for benefits, but for gain to knowledge. In my own opinion, you can pay too dearly for the knowledge that you gain; and I do not consider that we are justified in gaining knowledge if that knowledge can only be bought at the cost of the blood and the torture of living creatures who are unable to defend themselves. Nothing could express better, I think, the position of my opponents, than what was stated by Dr. Slosson in the New York Independent in 1895. He said:

"A human life is nothing compared with a new fact in science.

"The aim of science is the advancement of human knowledge at any sacrifice of human life.

"If cats and guineapigs can be put to any higher use than to advance science, we do not know what it is. We do not know of any higher use we can put a man to."

I merely quote that to show that animal vivisection has led on to human vivisection, and that the statement that we have from Prof. Slosson as to the need for human vivisection only shows that animal vivisection has proved a failure.

Here I should like to state my own view of that matter, namely, that the intelligence which has been gained from vivisection has proved of no real value to humanity; and I furthermore make the bold and unqualified declaration that I know of nothing whatever that has been gained from experimentation upon living animals that has been of the slightest benefit in the amelioration or cure of any human disease. Therefore I go dead against experiments on animals in every particular, and the object which I am out for is not merely the abolition of vivisection of dogs, but the abolition of vivisection entirely, root and branch.

There was an old author, Cicero, of the first century, who made a very striking statement at that time. It was this: "No cruelty is useful." I adopted that as a motto of my own, and I think it is an aphorism that can well be taken. "No cruelty is useful."

It may be urged, perhaps, that there is very little cruelty associated with the practice of vivisection. Had I known that I was to appear before this subcommittee, I should have prepared myself before I left England with data as to the character of experiments which are carried on in this country; and I have no hesitation in saying that the experiments which are carried on at your universities, carried on at the Rockefeller Institute, many of them have been brutal to a degree, and I shall not—I can not—give full particulars, but I shall simply mention one instance, and that will be the experiments of Dr. Crile, because he has published a part of them. Part of those experiments were conducted in England, and he has published a book. Among them are experiments numbering altogether 148 dogs.

The bright idea that he had was to produce shock in them. I have here a list of those experiments. Some of them were of the most terrible character, such as pouring boiling water; crushing paws, one by one, of dogs; holding them over spirit lamps; tearing out the intestines—everything that could possibly produce shock, including crushing the most delicate and sensitive organs of the male. This was the kind of thing that was done.

It may be said all this was done under anæsthetics. Well, we have it stated by himself that in some cases morphine was used, and in other cases that curare was used; and from the statements which he makes, namely that "the animal struggled at this point," and other observations of this description, it is clear enough that the animal was not, as has been alleged by my opponents, at that time under the full influence of the anæsthetic.

As a comment upon that I might quote the language of Dr. Wilson. When Prof. Starling, one of the chiefest vivisectors in the world, appeared before the Royal Com-

mission on Vivisection in 1906, to give evidence, Dr. Wilson, who was not an anti-vivisectionist, addressed Prof. Starling in this way:

"I am not going to ask you anything about Dr. Crile's experiments, but I may say as a medical man, admitting everything about anæsthesia, that I read them with horror at the time, and even now I can not see the justification for them. I will ask Prof. Victor Horsley about that. You, of course, know them. Do you contend that they are justifiable from your own point of view?"

To this Prof. Starling answered as follows:

"They are not experiments which I should have done myself."

I need say no more upon that point, and I give you that simply as an example.

What was gained by all these terrible experiments? You will find the alleged gain in what was written by Dr. Crile himself—I think, in the last sentence in his book—rendered in italics, as if it were a novel conclusion of the utmost importance. He said:

"*The result of action is reaction; of rest is restoration.*"

That is the result of 148 brutal experiments upon dogs. Any schoolboy in New York knew that before ever he started experiments of that description at all.

It is admitted by the leading vivisectors all over the world that you can not possibly conduct this work apart from the question of pain.

When Prof. Pembrey (?) appeared before the royal commission he told them, "I have done painful experiments. I admit it. I am not ashamed of it. Painful experiments are necessary."

Even in an article which has been recently written in defense of vivisection and circulated in the Woman's Home Companion all through America, it gives there the words which are placed upon the door of the laboratory of, I think it is, the Johns Hopkins University, and they are to this effect, that while the animal must be placed under an anæsthetic, if in the opinion of the director an exception should be made and the object of the experiment could not be attained if anæsthetics were used at all, then an anæsthetic would not be used. This is a frank confession that experiments are carried out in this country without anæsthetics. It is also a frank confession that experiments which can not be carried out unless they are painful are perpetrated in this country upon dogs—I may say that the language upon the door, which was published in this paper, refers entirely to dogs—which are associated with cruelty which only the animal itself can understand.

And I want, sir, to impress upon you this important point, that in this matter you are dealing with creatures that can not talk, that can not express their feelings; and the important matter is this, not whether in the case of dogs there has grown up around them a sentiment for these animals, but the point is, can they feel; and whether we are justified, even if benefits are gained, in perpetrating pain and suffering and torture upon these poor creatures for our benefit. I say, sir, it is not manly, it is not in accordance with the best dictates of humanity, apart from everything else; and it is admitted, as I say, by all vivisectors.

Dr. Klein, a renowned vivisector, told the royal commission that the vivisector "had no time, so to speak, for thinking what will the animal feel or suffer." He practically stated that his own attitude was universal "among the physiologists."

Metchnikoff, whose name comes up here, writing in April, Les Annales, Paris, while admitting exceptions, said that "the very large majority of learned men feel no scruples in opening the bodies and submitting the animals to the most cruel sufferings with the object of throwing light upon some scientific problem."

He spoke for the great bulk of the vivisectors to-day, and I want to draw your particular attention to the fact that in America you have free vivisection. We have certain restrictions in our country, that are of very little value, however; for, as in every country in the world, as has been said, there is no act of Parliament that a person can not drive a team of horses through; and, as before, the whole question is left in the hands of Government inspectors; and I have no faith in and no sympathy with a Government inspector whose whole vested interest lies in the practice of vivisection. I am, therefore, against vivisection in every particular.

Having shown that there is cruelty and, furthermore, that it is acknowledged by vivisectors that there must be cruelty, that they unhesitatingly say so, and that, to a man, they voice the sentiment of vivisectors right through the civilized world, I will then come to another point in regard to that, namely, the question as to whether there is really any science in this practice at all.

Now, I maintain that the whole practice of experimentation upon living animals is an unscientific one, totally unscientific, and my reason for saying that is this, that you can not argue from animals to man. Anatomically and physiologically, the condition of the lower animal life is such that you can produce no definite solution of a problem, I do not care whether it is physiological——

Senator ASHURST. Will you submit to an interruption at that point?

Dr. HADWEN. I beg your pardon?

Senator ASHURST. Will you allow an interruption at that point?

Dr. HADWEN. Certainly.

Senator ASHURST. Do you not know that the testing of blood of human beings was brought about by experiments on animals?

Dr. HADWEN. I am not aware of that.

Senator ASHURST. It is a fact.

Dr. HADWEN. Even supposing it were, there was no necessity whatever for doing it.

Senator ASHURST. When some women are in childbirth sometimes the female organs contract and excruciating pains occur. Are you not aware of the fact that by experimenting on oxen a small gland in the back of the head of the ox was discovered, after many years of careful research, and that such gland when dried and pulverized relieves a woman in the pain of childbirth.

Dr. HADWEN. Are you speaking of the pituitary gland?

Senator ASHURST. That may be.

Dr. HADWEN. Of course you will pardon me if I say that you are making assertions, and that whilst you are making that assertion you are not giving evidence.

Senator ASHURST. It is obvious to this committee and the audience that you are a man of some considerable information, but surely you are not going to say that you are bereft of information so common to all people.

Two things I mention are not only well known to the medical profession, but also well known to the layman, yet you say it is a mere assertion?

Dr. HADWEN. I will deal with that in a moment. Of course you are quite justified in putting a question and interrupting my argument. I will interrupt the argument for a moment and answer your questions. First, I understand, was the question of the pituitary gland, and the second was the question of the——

Senator ASHURST. The question of blood testing. Of course, those two things just happened to come into my mind; but at a hearing before this committee, at which I sat for 12 hours as a member of the subcommittee, the testimony was overwhelming to the effect——

Dr. HADWEN. The assertions were quite overwhelming.

Senator ASHURST. No; you must not put words in my mouth. The testimony of physicians for whom our American people have the highest regard was to the effect that operations upon dogs had proved of incalculable benefit to human beings——

Dr. HADWEN. Quite true.

Senator ASHURST (continuing). And that the suffering of thousands of persons had been relieved by means developed through experiments made by physicians upon animals. I am not a physician; I am a jack-leg lawyer, who knows when you are experimenting you would better experiment upon the pine than upon your mahogany. In this case I liken the pine to the dog and the mahogany to the human being.

Dr. HADWEN. I am quite prepared to admit that you had an overwhelming proportion of medical witnesses who made the statements to which you have referred. I only beg to refer, as a humble medical man, to the fact that my opinion is exactly the opposite. It may perhaps be said that I consider myself right and all the rest of them wrong. I am quite prepared to take that position, and to say that I not only believe but I know that I am right, and that I know they are wrong. So much for an opinion. One opinion is as good as another. A consensus of 60, or 600, or 6,000 men makes no stronger evidence than the opinion of one single man, because the opinion depends upon the best brain in that majority, and the one who is best able in arriving at a logical conclusion.

With regard to blood pressure, in that I know that a vast number of experiments have been done upon dogs, and all I can say is that it was absolutely unnecessary. There was no discovery whatever made in regard to it, because there was no discovery to be made. It is a thing that everybody knows—every medical man knows—perfectly. One animal differs so much from another that you could not possibly argue from the blood pressure of a dog——

Senator ASHURST. You say one animal differs too much from another. A dog anatomically is somewhat like a human being, and——

Dr. HADWEN. I beg your pardon, sir; a dog is very greatly different in structure from a human being and different in every particular.

Furthermore, the juices are different. The difference in the juices of the intestines are such that you can not argue from one to another; and even so great a surgeon as Dr. Cleeves has declared that in experimenting upon dogs in order to arrive at some definite conclusion to assist him in his work in abdominal surgery, he found it completely unfitted him, because of the difference between the canine and human. I need not refer to the brain. I need not refer to other organs of the dog. Your eyes

can see for themselves whether the dog's leg, particularly the front leg, compares with the arm of a human being. Anatomically, sir, I must entirely differ from the statements you have made.

Further, then, if two organs differ so much from one another, how much more must the animals differ from human beings. And therefore from these many experiments—and they have been very brutal experiments—that have been conducted upon dogs in regard to blood pressure, I say nothing has been gained, and also it was absolutely unnecessary to have done it at all.

With regard to the question of the pituitary gland, supposing that everything that was claimed for it was true—and there are very grave doubts; there is a great deal of exaggeration with regard to the pituitary gland as I know by practical experience; again I say that it was unnecessary. The matter of getting the pituitary gland was nothing more nor less than as a by-product of the slaughterhouse; and assuming that you eat meat, and animals have to be slaughtered for your benefit, it is only a question of getting the pituitary gland, as you might say, as any other organ of the ox's body and taking it into your chemical laboratory, and testing it and examining it to find out the chemical constituents of it; and then you can do anything you like and prepare anything you please in regard to it. It is absolutely unnecessary to have carried on any experiments whatever upon animals to have arrived at any scientific result. And furthermore, supposing you had obtained your by-product from the slaughterhouse and you had taken it to the chemical laboratory and you had there tested it and obtained a knowledge as to the chemical constituents of the pituitary gland and you had made your preparation, and supposing you said, "Now then, we must test this; we will test it on a dog." Supposing you tested it upon a dog, could you be sure that it would have the same results upon a terrier bitch as it would have upon a human female? No, sir.

There was one aphorism stated by Prof. Starling before the royal commission, which I want to very strongly and emphatically put before you to-day, and that is this, that the last experiment must always be on man. That is a confession by the leading vivisector in the country, that the last experiment must be upon man. Now, sir, if the last experiment must always be on man, the first scientific experiment must be on man. If the first scientific experiment must be on man, then it stands to logic and common sense that all the previous experiments upon these lower animals must have been at least inconclusive if not misleading. That is an argument I put forward with emphasis to those who would give some attention to the subject; one which should appeal to you as showing the unscientific nature of vivisection, inasmuch as you can not argue from animal to man. For, after you have arrived at your conclusion upon a lower animal, you are still to make sure that that conslucion will be justified in regard to a human subject.

I do not know whether there is any other point you wish, before I proceed, on those two points you brought forward.

Another point is this, as showing the unscientific nature of the practice, that supposing the animal is put under an anæsthetic, in doing that, you at once reduce the animal to an abnormal state. The very application of the anæsthetic brings about a more or less abnormal condition, and it is quite impossible to secure a normal result from an abnormal state.

Supposing an animal be not under an anæsthetic, then again the fright, the fear, and the pain, and so on, that the animal endures would be such that again the animal would be in an abnormal state.

Senator SHORTRIDGE. Pardon me right there. Could not there be a local anæsthetic applied?

Dr. HADWEN. Oh, you could have a local anæsthetic if you were performing an operation; say, for a cure; but you could not possibly do that in a capital operation.

Supposing you were to have such an operation as that done by Dr. Carrol, for instance, which has been advertised all over the world, in which he took out the kidney from a dog and transplanted that kidney to the neck and caused the urethra to pass down the gullet, and endeavored to make that kidney function in the neck instead of in its proper place; you would not do an operation of that sort by a local anæsthetic.

Senator SHORTRIDGE. Possibly not. What was that operation intended to develop?

Dr. HADWEN. I should like to know myself. I am quite sure Dr. Carrol does not.

Senator SHORTRIDGE. You would believe in restrictions, there, would you not?

Dr. HADWEN. No, I should believe in total abolition.

Senator ASHURST. Now you have been so kind, Doctor, in permitting interruptions, I want to ask you if you believe that that experiment took place——

Dr. HADWEN. Oh, may I be allowed——

Senator ASHURST. Do you believe that experiment was done for the wanton purpose of needlessly inflicting pain? I want the doctor to know that it was not done out of

idle curiosity. Do you believe, Doctor, that it was done by the surgeon in charge of the operation out of a wanton, willful, wickedness of spirit, or do you believe that it was to acquire information—to relieve humankind from suffering? In other words, what was the purpose of the operation as stated by you or as stated by the doctor?

Dr. HADWEN. I am not here, sir, to provide the motive which may actuate vivisectors in what they do. I am here simply and solely to state facts; and you are as capable of forming your own conclusions about an operation of that description as I am.

Senator SHORTRIDGE. Doctor, pardon me; we are searching for truth, and questions sometimes develop the truth.

Dr. HADWEN. Yes.

Senator SHORTRIDGE. You have cited there what you might call a very extraordinary operation or experimentation.

Dr. HADWEN. Yes.

Senator SHORTRIDGE. My immediate question is, What was the purpose of that operation, as claimed by the physician in question? What did he claim his purpose was, that is all; whether it was wise, foolish, or otherwise?

Dr. HADWEN. That question is quite justifiable.

Senator SHORTRIDGE. What did he claim he was setting out to develop?

Dr. HADWEN. My honored friend here asked me the motive of doing it. You ask me what he claimed in doing it.

Senator SHORTRIDGE. Very well.

Dr. HADWEN. What he claimed in doing it was this, to see whether it was possible for a kidney to function out of its ordinary place in the animal body.

Senator ASHURST. I remember one learned Senator asked another one day why a certain woman married a certain man, and he replied, because she wanted to get married. The chairman asks why that operator did that, and you simply reply, because he wanted to place a kidney in that place.

Dr. HADWEN. Yes.

Senator ASHURST. Now, why did he want to see how the kidney would function in that place.

Dr. HADWEN. Oh, yes; you see, you are after the motive. I can not say,

Senator ASHURST. What did he assert he wished to see?

Dr. HADWEN. That is all he said. He simply exhibited it as a piece of very wonderful surgery, and, if I will depart from the rule I have laid down, it appeared to me as nothing more nor less than a piece of scientific curiosity, as a good deal of this work is. I could show you, had I been prepared for the present inquiry, that a great part of the vivisection to-day is nothing more nor less than work of the same character, done out of mere scientific curiosity, that has no valid benefit of any kind in contemplation.

Senator SHORTRIDGE. Just one more question. I have a great love for the dog. A friend of mine has said, the more he knows of men the more he loves dogs.

Dr. HADWEN. Quite right.

Senator SHORTRIDGE. What became of this particular dog, and what was the result of the experiment?

Dr. HADWEN. It has never been stated, and we are never told what the results are. It is something like the brain experiments in surgery: "It was a very successful operation, but the patient died." And so with these animals, we do not know the results of the experiments in a great many instances, and I do not know the result of that experiment. There were other experiments, such as taking off the legs of one dog and sewing them on to the legs of another dog.

Senator SHORTRIDGE. What was his claim as to the purpose of that operation?

Dr. HADWEN. His claim of purpose was that it might be that somebody would be good enough to let go of his legs to supply somebody else who wanted them.

Senator SHORTRIDGE. Has not that been done? Have there not been cases of successful grafting?

Dr. HADWEN. Yes; there have been cases. But even then it had to be proved on a human being.

Senator SHORTRIDGE. You may resume.

Dr. HADWEN. Again, I will ask you to note what I said—or, not what I said, but what I quoted from your noted vivisector—that the last experiment must be on man. If you will examine a dog's leg, and see its simple anatomical construction, and then you think of a human thigh, and you think of the number of blood vessels that run up and down, and you think that you have got to get your main arteries and your main veins thoroughly opposed—brought into thorough apposition—that it is not taking a stump and sticking it on and sewing up the skin—because the blood is the life of the body, and you have got to get the arteries and main veins in apposition before you can succeed—I can call it nothing but a mass of arrant tomfoolery from beginning to end,

and Dr. Carroll ought to have been ashamed of himself, and the medical men to whom he gave it ought to have hounded him out of the profession.

I think I have shown enough to show the unscientific nature of the practice, and that you can not argue from animals to man. I will just give you an incident from my own country to show, before I leave that portion of the subject, even supposing my opposing friends may say that there is very little pain, and so on. This question that was asked in our British House of Commons by my friend, Sir George Greenwood, some years ago. We used to have the experiments there divided into two classes, painful and painless, and they suddenly dropped it, and my friend rose in the House of Commons and he said, "Would the right honorable gentleman, the secretary of the home office, be good enough to explain why it is that the experiments on animals are no longer divided into two classes?" This was the answer given from the front bench of the House of Commons by the home secretary himself: "Because in many cases it is totally impossible for even the operator himself to tell whether the animal is suffering or not." I can only say that an answer such as that, given of course, as the front-bench men are only the voice of the men behind them, upon the authority of the very secretary who holds the ropes, only shows that there is practically no animal that is placed upon the vivisector's bench but is placed there under a ghastly condition of suffering.

So much, then, for the question of pain and the unscientific nature, and so on.

May I just draw your attention to what would be the very misleading nature of experiment if we were to rely upon the results of pain by experiments on animals? I will, if you will allow me, sir, especially point this out to my friend here.

Senator SHORTRIDGE. Let me, right there, ask you this, Doctor. Your observations thus far apply to guinea pigs, and to rabbits, also?

Dr. HADWEN. Yes, sir; entirely without exception. The dog is looked upon as the most highly sensitive of creatures, but it is not more sensitive than a monkey. I doubt whether the dog is as sensitive as a cat. The cat is the most sensitive of all creatures. The reason that we are apt to look upon rabbits and guinea pigs and dogs as less sentient, less sensitive, less intelligent, and so on, is, in my opinion, simply because we do not take the trouble to understand them.

Senator SHORTRIDGE. You think they are as highly developed in their nervous systems as man is?

Dr. HADWEN. Quite.

Senator SHORTRIDGE. Or as the dog?

Dr. HADWEN. Quite, quite. If you will allow me, I will go off the line for a moment to answer you.

Senator SHORTRIDGE. Derail the train.

Dr. HADWEN. But I will remember and come back. I will remember what I was going to say.

It is not possible to answer as to whether these animals are as highly organized. You will understand, sir, and my medical friends who are here will bear me out, that there are two main nerve tissues in the body. There is what is called the sympathetic nerve system, that I need not trouble you about; but the two nerve systems are the motor and sensory nerves—the motor nerves that govern muscular action and the sensory nerves that govern sensation.

You have said, Mr. Chairman, just now that you were very fond of dogs. I think you will admit that your little dog is capable of hearing a sound that is out at your garden gate a great deal quicker than yourself. You might be sitting, for instance, in your room with your little terrier at your feet, and suddenly you hear a low growl. He pricks up his ears and starts up to his feet. Why? You have heard nothing; he has heard a noise. His sense of hearing is much more acute than yours.

Or, you have your little cat on your lap?

Senator SHORTRIDGE. No, no.

Dr. HADWEN. You do not believe in——

Senator SHORTRIDGE. I am not fond of cats.

Dr. HADWEN. You are not? Well, I am. I know this much, that I notice when I have my cat on my lap, and I know that my cat can hear the noise of a mouse in the wainscoting a great deal quicker than I can, its sense of hearing is so much more acute than ours.

Or, perhaps, you take a sleuth hound. You watch the sleuth hound on the trail, and see him track for mile after mile after his quarry. Why is it that the sleuth hound can do that? Because his sense of smell is so much more acute than our own.

You take, again, the case of a hawk as it flies in the air. You will see it as just a tiny speck in the sky. Then you will see others come, and they will gather together, waiting until a body lying upon the ground is dead, that they may claim it as their prey.

Why is it that those creatures come together in that extraordinary way? It is because their sense of sight is so much more distinct than yours.

Or, take a horse which you ride behind—a high-bred horse. You know that if you take your whip and give just the slightest touch upon his coat, he will spring forward. Why? Because his sense of touch is so much more acute than ours.

If the sense of sight or of hearing or of smell or of touch is so much more acute than ours in these lower animals, animals some of which we think so little of, have we any right to say that their sense of pain is not equally acute with our own, simply because they can not express themselves in articulate language? I say no.

Senator ASHURST. We had a hearing several months ago here. I say this particularly for the reason that my own attitude led some of my friends in the District to think that I had no regard for animals; I am afraid the Senator from Montana, Mr. Myers, who proposed this legislation, and for whose opinion I have high respect, may have thought so. At any rate, it was whispered around that I was indifferent to suffering and sacrifice of animal life. For years I have taken a paper called Dumb Animals, the motto of which is "Be kind to dumb animals." I have raised many horses and dogs in my own country; and in Arizona and other parts of the West we have what you do not have in England except in museums, that is, the rattlesnake. Our horses on the western plains and deserts are frequently bitten by rattlesnakes.

Dr. HADWEN. What?

Senator ASHURST. Rattlesnakes. The rattlesnake has no eyelids, its eyes are open all the time, it has a hard button at the end of its tail, and two poison fangs in the upper jaw, which when it strikes inject a deadly poison into the wound. Our horses would be bitten from time to time by rattlesnakes, a leg that was bitten would swell within two hours to twice if not three time its normal proportions. By making simple but not painless experiments and operations on horses, our surgeons—especially our veterinary surgeons—have been able to relieve a horse or a mule or a cow that had been so bitten from great pain.

Moreover, our dogs were frequently bitten, and usually bitten on the nose, because they would be prowling about; and I will say for the rattlesnake he does not usually bite unless he is disturbed. I do not fear or despise the rattlesnake as I did years ago.

Experiments were made on the injured dog. When a dog was bitten his head was swollen to the size of a small cask, in a few hours, and he suffered excruciating agony. Experiments and operations have led to great relief to the animal himself. I could give other illustrations along the same lines.

I do not remember the name of the gentleman who appeared here a year or so ago when we had this other hearing, who had been an antivivisectionist and who had been converted to the idea that vivisection does confer benefits. The record will show who he was. He said, "I appear here as attorney for the dog. The experiments that have been made have aided us in relieving countless hundreds of dogs from suffering agony." His testimony was that so far from its being a cruel thing to the dog or other animal, the operation was beneficial. The record will disclose his name; I have forgotten it. What have you to say about that?

Dr. HADWEN. I quite agree with it.

Senator ASHURST. What?

Dr. HADWEN. I agree with every word you have said. If you have a patient who is ill, if you have a patient who is suffering from adder bite or anything of the kind, you are responsible, whether you are a medical man or a veterinary surgeon, and you are bound to try every experiment under the sun in order to relieve him, on the animal that is so affected. It is no use doing it on an animal that is not so affected. Why should you go and torture a healthy animal for the benefit of one that is diseased? That is what we complain about.

Senator ASHURST. Very well; just at that point. Now, we will assume that you are in charge of a great herd of fine horses, and rattlesnakes are numerous. Do you think you should wait until a spirited and splendid horse is bitten on the plains before you should take any precautions as to learning how to treat that horse? Would you not learn immediately how to treat him, before the bite took place; or would you just go it blind and say, "Oh, I shall not even make an incision in a horse's nose. I am going into a place where the rattlesnakes are numerous and my horses may be bitten and may die, but because I am an antivivisectionist, I will not make an incision 2 inches long in order to learn how to treat horses?" Would you wait until the animal was bitten and, then, with absolute oblivion and ignorance of what you ought to do, cut with the knife and incise? Would you not learn beforehand?

Dr. HADWEN. I can see that you are a careful and thoughtful man, and a man of the world, and I am positive you would never put your best horse out where rattlesnakes would be likely to attack it.

Senator ASHURST. Great.

Dr. HADWEN. As you have said, there are any number of rattlesnakes about and there are any number of horses being bitten, and there will be every opportunity of learning how to treat your best horse without subjecting a horse to experimentation.

Senator ASHURST. Of course, I am patient, and your friends here evidently believe the same way. I am content to let the record rest as it is.

Senator SHORTRIDGE. You would have to kill all the rattlesnakes first.

Senator ASHURST. Doctor, you live in England where there are no rattlesnakes, except those that are on exhibition in museums. I am not surprised at your answer, and I am not surprised that your friends applauded, because you know nothing about rattlesnakes.

It is the same with regard to the skunk. Our eastern friends are astonished at our experience with the skunk. Its bite out West produces hydrophobia. In our western country whenever persons are bitten by a skunk, we rush them immediately to the Pasteur Institute in Chicago, or to the institute in Los Angeles. In the eastern States, outside of the laceration you do not appear to pay any attention to a skunk bite. In Arizona persons are frequently bitten by a skunk, and usually bitten at night.

In a practical world, we will say we do not want to punish or operate on any skunk needlessly; but if skunks carry around with them the germs of hydrophobia, which so terribly afflicts mankind, surely in the interest of mankind we ought to feel no hesitation about operating upon the brain of a skunk to see whether that particular brain has present in it these negri.

Dr. HADWEN. I am afraid, sir, that if the man was really bitten with what you call rabies poison, while you were hunting for your skunk, the man would die.

Senator ASHURST. I say that frequently we are able to capture the skunk that has bitten the man. The skunk holds on when it drives in its teeth. It does not turn loose and we are able to capture the skunk and operate on it and find out whether it has this negri in the brain. Would you operate on the skunk?

Dr. HADWEN. Quite true.

Senator ASHURST. Sure.

Dr. HADWEN. So far as that goes, will you allow me simply to say that the so-called negri bodies—that is what they were called—which were supposed to be a sure indication of rabies in the animal, have turned out to be present in everybody's brain, and the whole theory has been given up; so that all your medical men down Arizona way are out of date.

Senator ASHURST. I beg pardon, what is that?

Dr. HADWEN. I say, all your medical men down your way are out of date.

Senator ASHURST. As to the medical men of Arizona being out of date, I will say that some of them came from Washington. One of our skillful surgeons came from Ireland, and one of our ablest physicians came from England; and you may be producing men over there that are out of date, but we do not think so.

Dr. HADWEN. I only say, sir, that is given up. You may call upon my medical friends here to show the contrary. I merely now tell you, and I assert it without the slightest fear of hesitation, that the so-called pathologic pneumonic tests for the discovery of hydrophobia by the discovery of negrine bodies, has been given up, and it is now known that they are not pathologic pneumonic indicia of hydrophobia at all.

Senator ASHURST. So far as the records show, in the southwestern part of our country, the patient bitten by a skunk, which skunk later is proved to have these negri in the brain, suffers from hydrophobia or rabies, and dies if he is not treated. But we do not know of any case where a patient has died from hydrophobia after a bite from a skunk where the brain of such skunk did not have these black spots, or negri.

Dr. HADWEN. Unfortunately, I do.

Senator ASHURST. Likely.

Dr. HADWEN. And supposing you have caught your skunk and examined its brain and have found your negrine bodies; and suppose you have applied your remedy built up upon the Pasteur idea, would you be any better off? No; simply because there is no known remedy for hydrophobia upon the face of this earth.

Senator ASHURST. I was speaking of the preventive. I said that as soon as it is found that a man has been bitten, if he is too poor to pay his own expenses, the county or the State pays his expenses, and he is sent post haste to the Pasteur Institute; and we have no known instance in 40 years in Arizona where a patient who went to the Pasteur Institute has suffered from hydrophobia. It takes from 9 to 21 days for these germs of rabies to incubate in a human being. I have seen two or three patients die from rabies brought on by skunk bites, and I hope I may never see another one.

Dr. HADWEN. Yes, sir. Well, of course, we live in a free country, and we are all free to hold and express our own opinions. No preventive, no remedy, for rabies has ever been invented.

Senator ASHURST. I insist that I have not said that there was a cure for a person who has already developed rabies.

Dr. HADWEN. Yes.

Senator ASHURST. I insist that there is a preventive if it is taken in time. I have not said anything about curing it.

Dr. HADWEN. You will excuse me for saying—I am not saying it to you personally, by a long shot—that argument, the old argument, post hoc ad propter hoc, has been the cry for generations. You inject a person and he does not get hydrophobia; and you will say that it was because he was injected. You give a person a remedy and he gets well. Therefore you have cured him. Post hoc ad propter hoc.

In the old days a remedy for plague was to put a toad around the person's neck, and everybody that wore a toad—and they were all wearing them when they could get enough—everyone that wore a toad and did not get the plague, they said, "Thank God for that toad."

Senator ASHURST. Yes, and if our physicians had not been brave and skillful enough to operate on animals, we would all be wearing toads now.

Dr. HADWEN. I am afraid, sir, you are giving expression to a prejudged view which would rather put you out of court as one who had to judge impartially upon a question of this description; and furthermore, you are making a statement for which, so far, in any of your questions you have not given ground for justification.

Now, with regard to hydrophobia, I have taken the trouble to send to all the Pasteur institutes right around the continent, and I have obtained their reports, and I can tell you this, that I have a list of between 3,000 and 4,000 certified cases by the Pasteur institutes themselves of deaths from hydrophobia in persons who had been protected against it; and the majority of those cases had been protected within the recognized time which, according to the fanciful theory of Mr. Pasteur, was the right period for taking it.

Senator ASHURST. Are your records from the Chicago institute, of Chicago, Ill.?

Dr. HADWEN. I am not sure whether I have the Chicago or not. It is very likely. But I can give you the whole list of them. I have published the lot, so that they are all there. The vivisectors themselves can form their own conclusions. They have not been able to reply to them yet, and they have had them.

Senator SHORTRIDGE. Are those statistics published?

Dr. HADWEN. They are published; yes, sir. They are all published by my society.

Senator SHORTRIDGE. For the record, would you kindly indicate them?

Dr. HADWEN. Yes; it will take some time. They are in England. But you shall have them.

Senator SHORTRIDGE. They would be helpful to us.

Dr. HAWDEN. Now, we have gone off at a tangent upon all kinds of points, and I suppose that I had better come back to the point that I left, which was, I was going to give you an instance of what might be the very misleading character of vivisection when attempting to argue from animals to man.

I will take the case of drugs. It is constantly remarked that you can not possibly, that you dare not, experiment first of all upon a human subject, but that you must try your drugs upon an animal first. Supposing you did. Take such a common thing as lemon juice—ordinary citric acid—that I am sure you must find in Washington most delightful for cooling your thirst in the extraordinary summer heat. That acid is rank poison to a cat, immediately. No cat can take the active principle of lemon juice without finding it an actual poison. If you were to argue from your cat, look what you would be deprived of here in Washington.

Again, suppose you take that valuable drug, morphine, the active principle of opium. Where would we be without it? Where would the vivisector be without it. In the case of every dog that is put under an anasthetic, they give the dog an injection of morphia. Morphia does nothing more than to destroy the power of resistance. It does not relieve pain. But how are you going to judge of the amount of morphia that will be necessary? You seem to have made the statement that dogs, in anatomy and physiology, are generally allied to man; that you can reason from a dog to a human being. Do you know, sir, that one grain of morphia would be enough to send almost anyone in this room into the next world; and yet you can give 38 grains of morphia to a dog and the dog will be none the worse for it.

Senator ASHURST. I know, Doctor, that is true. I can smoke one cigar a day. It is painful for me to do that. I have a friend who can smoke 30 cigars a day. Of course there are physiological idiosyncrasies in all animal life.

Dr. HADWEN. I thank you most cordially for that argument. It will be quite an important argument to go before the Senate, ultimately, because on your own argument it is shown that you can not even reason from one human being to another, let alone from a dog to a human being. [Applause.] Now, with regard to the dog, a witness told the Royal Commission on Vivisection that he had never been able, except

in one instance, to kill a dog with morphia. If you were to reason from a dog to a human being, where would you be?

Take, for instance, belladonna, a most fatal drug in the case of a human being; yet rabbits can eat it until further orders and grow fat on it.

Take hemlock. They give hemlock to a goat, and a goat can flourish on it.

Senator SHORTRIDGE. A goat can flourish on anything.

Dr. HADWEN. That is quite true. My argument is simply that you can not reason from one to the other.

Senator ASHURST. All of us who will think and investigate know that in all animal life and in plant life there is what I term, for the lack of a better name, physiological idiosyncrasy, and when you say the goat can eat hemlock and the cat can not eat lemon juice, I admit it.

Dr. HADWEN. Then you have admitted the whole question.

Senator ASHURST. It proves only what we all know, that physiological idiosyncrasies not only exist in animals as well as mankind.

Dr. HADWEN. Then that ends the whole thing.

Senator ASHURST. But because of a physiological idiosyncrasy that happens to apply here and there, or here and there, you can not say that because of that the whole structure of animal life bears no relation. There is some relation between the bullock and the man. Each has a heart, the semilunar valves, and other things in common—the pancreatic juice, for instance—and we take the pancreatic juice from a calf and give it to our children. But you can not say that because the pancreatic juice in the stomach of a calf is like that in the stomach of a man, they are alike in all other respects. I do not want you to put me in the position of saying that a man and a dog or a man and a monkey, are similar. I only say that so far as the general structure is concerned they are similar.

The dog is the best subject that physicians, I believe, have been able to find that will give them light, illumination, and information as to how to relieve human ailments. Surely the man that we call into our home, who treats our children, and is admitted to the intimate relation of being present when a wife gives birth to a child—it is monstrous to believe that that man would go out and needlessly and wantonly inflict pain upon an animal.

If I am correct in my recollection of this testimony, it was not only proved but admitted by those earnest and honest people who are opposed to vivisection that it is nearly 30 years in America since a well-authenticated case of wanton and needless cruelty has taken place, inflicted by a doctor on an animal. There was a lady who appeared before us at the former hearings who read statements of many supposed cruelties, as will appear from that record, but when we asked for the dates these cases were from 30 to 40 years old. I think you can feel sure that the physicians here are not wantonly and unnecessarily inflicting pain upon dumb animals.

Dr. HADWEN. You would have made a first-rate solicitor, sir, for the other side. But in using arguments of that description you are putting into my mouth what has never come out. I am not here to charge my opponents with wanton cruelty of any description. I am here simply to state facts and to give evidence; and I understand that I am appearing before a committee who are to form an impartial judgment upon the facts which I have produced. So far whatever facts I have produced have remained unanswered, and I think I am justified in saying that what I shall produce and what I shall say no one will be able to contest. I shall simply stick to facts. I have not even given you an opinion without justification.

You yourself, sir, have admitted all that I contend, and I need say no more on that point. You have said that there may be a similarity in structure, and we all know that, because even in the case of a bird and a human being the wings are only a modified form of our arms. That I quite admit. But when you talk about a bullock's heart and a human heart, we know that when a human being gets what is called a bovine heart you are on a very different side, and you have a curiosity at once. You can not argue from one to the other.

My point is this, that until you have experimented, no matter what organ it may be, upon the human being, you have no scientific certainty that the deductions which you have drawn from your experiments upon the animal would furnish you with any scientific evidence as to reproduction of the results upon a human subject.

Senator SHORTRIDGE. Doctor, do you believe in vivisection upon living human beings?

Dr. HADWEN. That is a question that I can not give a direct answer to.

Senator SHORTRIDGE. It seems to me it is susceptible of an answer, yes or no.

Dr. HADWEN. You are quite right. What I mean is this: that I can not say yes or no without explaining my answer.

Senator SHORTRIDGE. Yes.

Dr. HADWEN. I will answer in this way, if you will permit me——

Senator SHORTRIDGE. Certainly.

Dr. HADWEN (continuing). That no knowledge can be gained without human vivisection. But human vivisection is spoken of in different ways. I am not advocating the human vivisection of the vivisector, or that of Prof. Slosson, to whose remarks I directed your attention when I opened my address. I would consider that to take criminals, as has been urged in America, and hand them over to the vivisectors for them to experiment upon, would not only be a very unsafe and unreliable proceeding in regard to healthy subjects, but would be a most immoral proceeding, and therefore I, as a man who belongs to civil life and society, would oppose any such measure. But without human vivisection we should know nothing. How are we to get our human vivisection? Nature herself is providing it all the time.

Senator SHORTRIDGE. One moment, please. I do not understand that question, but I understand how others understood it, as evidenced by applause. Now, with great courtesy, it does not add anything to the hearing to manifest applause. It is not regarded as helpful to the committee.

Dr. HADWEN. No; every day, every month, every year, nature is performing her own vivisection.

Senator SHORTRIDGE. Yes; let me go back a little to what I want to find out, doctor. You have, with all earnestness, presented what you call a moral issue involved in this measure, which appeals to all thoughtful and civilized men and women.

Dr. HADWEN. Yes.

Senator SHORTRIDGE. What I wish to develop is this: Young men are torn from their mothers' hearts to make sacrifice, to die, in order that their country may live.

Dr. HADWEN. Yes.

Senator SHORTRIDGE. They go voluntarily, gladly, and their mothers proudly send them to death that their country may live.

Dr. HADWEN. Yes.

Senator SHORTRIDGE. There is a moral issue involved there, perhaps, that men ought not to be taken to die in order that their country may live; and there are those who claim that it is immoral, that it is unchristian and uncivilized, wrong, for a man to die in battle in order that his country or others may live. Having in mind the moral features or issues of this matter—and I am not indicating my position by a question——

Dr. HADWEN. No, no.

Senator SHORTRIDGE. I am not putting it in a leading form, or otherwise, to betray my own feelings; but might it not be entirely moral to sacrifice a human being in order that humanity may live? Would it be or would it not be moral, considering the moral phase of the situation, to take and sacrifice one human being, in order that a whole community might live? Of course I am assuming that the experimentation or the sacrifice in the supposed case would produce good results and save the many.

Dr. HADWEN. True.

Senator SHORTRIDGE. Just one other thought, and then I would be glad to have your view touching the morals of the problem. History affords us countless illustrious examples of men who have voluntarily died, as we say, for their country, or for a cause. Your learning will, of course, recall to your mind in the history of the world many such cases.

Dr. HADWEN. Yes; quite true, sir.

Senator SHORTRIDGE. Now, you have laid stress, as many good people do, upon what is called the "moral issue" involved. Is it right morally? Of course the morals of one nation may not be the morals of another; but when you and I speak together of morals or what is morally right, we speak as of our race and our civilization. When we use the word "morals" we understand one another.

Now, we are thinking of the lower animals. If it be morally right in time of war to sacrifice one or many lives, to throw them into the trench of death, in order that their country—or in a given case civilization—may survive, would it be morally right in times of peace to sacrifice one life, or indeed many lives, in order that the great multitude may live?

And then, coming down to the immediate question, would it be right to sacrifice the dog or the guinea pig or the rabbit or other animal to the end that humanity might be benefited? If you can, without multiplying words, please state your position once more on that point, the "moral issue."

Dr. HADWEN. Certainly, sir; and I am only too delighted to have had put before me such a sound, logical argument; and I will endeavor to reply in the same way.

So far as I understand your question, it may be summed up in two parts, first, the question of enforced sacrifice; secondly, the case of voluntary sacrifice upon behalf of others. The whole thing was answered in that.

First of all comes the question of enforced sacrifice for others. Though it is contrary to the moral code for the strong to take advantage of the weak and for us to enforce our will upon another, the other having to suffer pain and torture as the result of it, I admit there might be circumstances where such enforced torture would be necessary. To make a rule of it, as they did in the Middle Ages when they tortured men in order to wrest secrets from them, is something that we now would not for a moment consider. Before any such torture was enforced by the strong against the weak, upon a person who is helpless to resist and against his will, there would have to be a very strong and definite certainty that that result would be such as would benefit the millions of lives which are supposed to be benefited by such a process.

Senator ASHURST. Mr. Chairman, excuse me. Doctor, I am obliged to go. I hope, Doctor, you will not consider that my departure is through any discourtesy. I would be delighted, and probably instructed, to remain, but the time has come when I find myself obliged to go to the Senate.

Senator SHORTRIDGE. If we do not interrupt you further, about how much time will you take to develop your views?

Dr. HADWEN. I am speaking entirely extemporaneously. I have not prepared anything whatever. Of course, I should have finished long ago except for the side issues. I am willing to stop now, and am thankful for this opportunity.

Senator ASHURST. You will excuse me at this particular moment, Mr. Chairman, will you? And, Doctor, I am glad to have met you.

(At this point Senator Ashurst left the committee room.)

Senator SHORTRIDGE. Is there any additional view or fact that you now think of that you would like to add?

Dr. HADWEN. I shall be very pleased to close quickly.

Senator SHORTRIDGE. If you have any statistics that have been referred to, you might offer them. If it is convenient to parties interested, we might devote some time to this matter this afternoon.

Dr. HADWEN. I am quite willing.

Senator SHORTRIDGE. If there is a call from the floor of the Senate I can go there and return.

Dr. HADWEN. Would you like me to finish my answer to you this afternoon or right now?

Senator SHORTRIDGE. If it is agreeable to you, at 2.30 o'clock this afternoon we will resume the hearing, and we shall be glad to hear you further at that time.

Dr. HADWEN. Yes, sir.

(Thereupon, at 12.30 o'clock p. m., the subcommittee took a recess until 2.30 o'clock p. m.)

AFTERNOON SESSION.

The subcommittee resumed its session, pursuant to the taking of the recess, at 2.30 o'clock p. m., Senator Samuel M. Shortridge (chairman) presiding.

STATEMENT OF DR. WALTER ROBERT HADWEN—Resumed.

Senator SHORTRIDGE. Resuming the hearing, Dr. Hadwen, more or less time was consumed this morning, and various questions were put which, calling for answer, turned you away at times from the statement which you set out to make.

Dr. HADWEN. That is all right.

Senator SHORTRIDGE. The committee will now be glad to resume and give ear to anything in addition to what was developed this morning, if you care to make some further observations, and when you shall have finished, the committee may propound one or two questions for the purpose of developing your views or bringing out facts bearing upon the matter under consideration.

Dr. HADWEN. First of all, I think where we left off, sir, was you had put a very logical series of questions to me upon the moral aspect of the subject, and that was as to whether it would be right under certain circumstances to sacrifice some individual for the benefit of perhaps millions of lives, even though it might be contrary to the will of the individual.

Secondly, you drew attention to war, and to persons offering themselves for their country as a sacrifice in order that their country might be saved.

Both those positions are, in my opinion, perfectly logical. In the first place, if it can be shown that definite advantage would be gained to vast numbers of people by the sacrifice of one, then it would be perfectly justifiable from certain points of view, perhaps, to do that. Personally, I should not like to have to pass judgment on that myself, and I do not know that I could ever bring myself to agree with such a proposition; but I quite agree that such a thing would be possible.

There would be this, however, in connection with it, namely, that the ultimate probability would have to be a certainty, and that there could be no justification for offering up a human being as a sacrifice unless the object of that sacrifice could be positively assured.

In the case of vivisection no attempt whatever has been made in that respect. In vivisection it is experimental from beginning to end. No vivisector claims anything more than pure experimentation, and it is therefore simply cutting and hacking living animals under the problematical idea of finding out something, without especially clear proof and evidence that the result will be such as they claim it may be.

It was only a few years ago that the British Medical Journal, one of the chief medical journals in our country, made the statement that the whole shore of medical science is strewn with the wrecks of theories. The whole thing, connected with vivisection, is entirely problematical.

Now, coming to the difficulties of your argument as to a person offering himself as a sacrifice for another, that is perfectly justifiable.

Senator SHORTRIDGE. Pardon me, Doctor. I suppose you know it is held, according to many schools of morals and religion, that we have no right to take our own life?

Dr. HADWEN. No.

Senator SHORTRIDGE. But I had in mind not the voluntary offering of one's life for the benefit of mankind. Many noble physicians have done that, as we know.

Dr. HADWEN. True.

Senator SHORTRIDGE. But what I had in mind was whether or no, as perhaps bearing upon this subject of morals, it is justifiable for the State to take the life of a citizen or subject for the benefit of the remainder of the citizens or subjects.

Dr. HADWEN. Well, there is one great historical instance where such a suggestion as you have made was put forward. It was in the year 33 A. D., when the great high priest of Israel said, "It is needful that one should be offered up for the nation," and One was offered up. I leave the question open as to the result. But, anyhow, that was felt to be right. With a statement, with a historical instance, of that before us, an instance that is associated with, I may say, the great Constitution of the United States, one is bound to admit the possibility of such a thing.

But again comes my argument that you must have the result of that assured, or else the State would be as guilty as an individual of murder and crime.

Now, sir, having answered that, I should just like to make an observation or two with regard to the question of surgery. We have claims made—they may be made by my opponents—that surgery has made great strides as the result of vivisection. The alleged strides of progress of surgery have been almost entirely associated with the abdominal region, and the greatest adepts in surgical work in that region have been men such as Prof. Lawson Tait and Grenville Bancroft, both of whom I knew intimately and favorably; and those men were all opposed to vivisection; and yet the most brilliant work that was ever done was done by those men. And it is useless to say, especially in view of the statements which I quoted this morning, that abdominal surgery owes anything at all to vivisection.

Lawson Tait wrote me some time before he died that vivisection had done nothing for surgery, but led to horrible bungling. Here I may quote the last words I quoted from Lawson Tait. I think every one of the medical gentlemen here this afternoon will agree with me that he was one of the greatest and most successful surgeons that ever lived. He had a name that you may answer with in any city in the whole civilized world, and he said this in the year in which he died. I mention this because in a paper which has been published and has a wide circulation—I think it is called "The Home Companion"—in an article by a Mr. Harold Ernest Bain, there he has made the statement that Lawson Tait retracted his views on vivisection before he died. I mentioned it last night and criticized it as a gross falsehood and one for which the writer ought to be ashamed of himself. This is what Lawson Tait wrote only about three months before he died, in May, 1899, writing to the Medical Press and Circular [reading]:

"Some day I shall have a tombstone put over me and an inscription upon it. I want only one thing recorded upon it, and that to the effect that 'he labored to divert his profession from the blundering which has resulted from the performance of experiments upon the subhuman groups of animal life, in the hope that they would shed light on the aberrant physiology of the human groups.' Such experiments never have succeeded and never can, and they have, as in the cases of Koch, Pasteur, and Lister, not only hindered true progress but have covered our profession with ridicule."

Those were the words, sir, just before his death, of one who was perhaps the greatest surgeon who ever lived.

Furthermore, he moved a resolution, in April of the same year, at a great demonstration in St. James Hall, Piccadilly, London, which is as follows [reading]:

"That this meeting wholly disapproves of experimentation on living animals as being crude in conception, unscientific in its nature, and incapable of being sustained by any accurate or beneficent results applicable to man."

Now, sir, I want to give just one or two more quotations from eminent surgeons, and I will mention only those that are of the greatest eminence. I take Sir Charles Bell. He lived 150 years ago, nearly, but he was the great discoverer of the double action of the spinal nerves, one of the most remarkable discoveries of modern times. This is what he wrote [reading]:

"The opening of living animals has done more to perpetuate error than to confirm the just views taken from the study of anatomy and natural motions."

That man did do a vivisection of a dog, because after he had made his discovery by anatomy he claimed he could not get his own contemporaries to believe what he said, and he was compelled to do this experiment upon a living dog in order to convince them that he was right. He wrote a letter to his brother, and you will see in his work that he published on the whole subject of his discovery that he was so horrified at the awful agony of the dog that he could never do it again. And to show the utter uselessness of that, he found subsequently that by killing a dog suddenly and taking it when recently killed he could pursue his experiment without any trouble at all.

Senator SHORTRIDGE. Pardon me, right there; I wish to ask a few questions along that line.

Dr. HADWEN. Yes.

Senator SHORTRIDGE. Is it morally right to kill the dog at all for the purpose of experimentation? What right have we to kill a dog to benefit ourselves?

Dr. HADWEN. Are you a vegetarian?

Senator SHORTRIDGE. No.

Dr. HADWEN. Then you consider it perfectly justifiable to kill an animal for the purpose of eating meat.

Senator SHORTRIDGE. Sometimes I think it is wicked, inhuman, and savage to kill a little, bleating lamb in order to have lamb chops for breakfast.

Dr. HADWEN. Yes; exactly.

Senator SHORTRIDGE. What right has man to kill the little, innocent lamb, frisking around its mother?

Dr. HADWEN. You are quite right. That is a question that must be left to every person for himself. Personally, I have eaten neither fish, flesh, fowl, nor good red herring for 40 years past.

Senator SHORTRIDGE. I divined that from your sentiments.

Dr. HADWEN. Therefore you may form your judgment as to what my opinion is upon the matter in question.

Senator SHORTRIDGE. Pardon me. Return, then, to the physician you mentioned.

Dr. HADWEN. I come then to another great surgeon, Sir William Fergusson. He said that no single operation had been initiated by the performance of something like it on the lower animals. He also said that he was not aware of any experiments which had tended to mitigate pain.

We have great claims made with regard to brain surgery, and we are told that the discovery of the centers of the brain was entirely due to experiments upon animals. All brain surgery, of course, developed from the knowledge of the centers of the brain, just as does that of the arms, legs, trunk, feet, and so on. Those discoveries are entirely due to the experiments of Ferrier and others. Long before Sir Victor Horsley had ever inserted a scalpel into a victim's brain or had ever tortured a dog the whole of these centers had been discovered by Dr. Hewling Jackson. He was a quiet, retired, learned man who took especial interest in the question of brain physiology, and he noticed certain results in the human body whilst attending his patents in the hospital wards, and by anatomical investigations in the post-mortem room he was able, after many instances, to see the lesions which had been the cause of those results; and it was really in order to see whether Dr. Hewling Jackson was right that these other experimentors began to perform their experiments upon the monkey and the dog, and it was upon that occasion that Dr. Hewling Jackson said, with a slight twinkle in his eye, "I wonder if they will discover that I am wrong, after all." They found that in the main he was perfectly right, and that the centers he had marked out were perfectly correct. I said, "In the main," not that Dr. Hewling Jackson had made any mistake, but it was these men who had performed their experiments on the dogs and monkeys that had made the mistakes; because Shorter, the greatest brain authority perhaps that ever lived, said, "You can learn nothing from the topography of an animal's brain except the topography of an animal's brain," again finding that you can not reason from an animal to a man.

But take Ferrier himself. He knew this subject; he was one of the greatest authorities upon this matter and did some of the most brutal experiments. This is his own statement [reading]:

"Experiments on lower animals, even on apes, often lead to conclusions seriously at variance with the well-established facts of clinical and pathological observations. * * * The decisive settlement of such points must depend mainly on careful clinical and pathological research. * * * Experiments have led to different views in different hands."

You can not have a greater authority than that. Ferrier says that even with regard to the brain physiology you can not reason from animals to man; and therefore all the triumphs of brain surgery have not derived anything from animal experimentation, but depended entirely for scientific results upon clinical investigation and pathological and anatomical inquiry. So much for that. I need say no more of the surgical question. I think that is settled without a doubt.

I now want to dwell for a moment upon the branch of vivisection which forms the major part of the vivisection of to-day, and that is the part which depends upon the germ theory of disease; in other words, the bacteriological methods, and the whole of the innoculation and vaccines that are built up upon it.

The germ theory of disease presupposes that there are certain specific germs which are the causes of specific diseases, and that these inhabit the atmosphere, ready to pounce upon the human and bring about the disease with which their names are associated. I personally deny the whole germ theory of disease.

The author of the theory was challenged again and again during his lifetime to get one of those pathological germs from the atmosphere and prove that they could produce the disease with which they were alleged to be associated. He died without doing it

His successors have been challenged again and again to do it, and they have not yet accomplished it. Whether my medical friend, Dr. McCoy, will be able to satisfy you that he has done it, we shall see. I challenge him, as I challenged many many another medical man, to get them from the atmosphere. I say that these germs have always been taken for their purpose from the excrement of the human body; that they are associated with the effete material of the human body; that they are dependent upon the morbid changes which take place in the human body, and therefore they are the result of disease and not its cause. And I maintain further that so far as one is able to judge, these germs are there not as the enemies of man but as the friends of man, for the purpose of disintegrating morbid material and splitting it up into its primary elements, and so converting that which is bad into that which is good. I will give you one instance, sir, in order to try to give an example of what I mean. I will take the case of a septic tank. I know something of this, because I was the means of introducing the system into the city of Gloucester for our hospitals there, and it means the conveyance of sewage into a large tank, allowing the amœbic, microbic organisms to settle down, and these organisms act upon the sewage in such a way that it is converted into a liquid. It passes into another tank and then into another, and so on by successive stages, and the microorganisms attack this sewage matter until it comes down to the condition of pure water in which gold fish may swim.

I do not lay this down as a dogma; I merely give you what my impression is of the whole utility of germs, that they attack morbid material, split it up and resolve it into its ultimate elements, so that a man, instead of having putrefacted miasma from the atmosphere, may restore it to purity.

Senator SHORTRIDGE. Certain diseases are said to be contagious?

Dr. HADWEN. Yes.

Senator SHORTRIDGE. If I understand the meaning of that phrase——

Dr. HADWEN. I think you would rather use the term "infections."

Senator SHORTRIDGE. Yes.

Dr. HADWEN. "Contagious" means affecting from the touch.

Senator SHORTRIDGE. Yes. What is it, under your theory, that brings about the spreading of a given disease suffered by one individual? In a word, how is it communicated throughout a whole neighborhood?

Dr. HADWEN. Yes. Of course, as I have already said, I am not going to dogmatize. As Shakespeare says, there are more wonders in heaven and earth than are dreamt of in your philosophy. Therefore I am not going to dogmatize upon this point, but I am going to say this, that so far as the safest evidence goes, the zymotic diseases to which these germs bear special relations and the diseases which are supposed to be infectious invariably arise from insanitary conditions; pollution of the soil or pollution of the atmosphere; putrefaction of soil and pollution of air or water, and the conveyance of the results of chemical decomposition in morbid material, bringing about the miasmatous conditions which we inherit and are now striving to throw off in some form or

other of zymotic disease according to the intensity of the poisoning, and the resisting power or absence of resisting power in the individual. You may get it. And I may say here that I do not consider there is such a thing in the world as disease. I would rather call it "condition of disease."

Senator SHORTRIDGE. Well, men die.

Dr. HADWEN. That is true. I will call it "condition of disease."

Senator SHORTRIDGE. Not to pursue that; take the so-called bubonic plague or black death.

Dr. HADWEN. I will go into that.

Senator SHORTRIDGE. We out West, in San Francisco, a few years ago were greatly terrified by the rumor that the black death had been introduced there. Now, whether there be disease or not, that condition——

Dr. HADWEN. Yes; that is the point.

Senator SHORTRIDGE (continuing). In which, say, a given person may find himself may be communicated to another, may it not?

Dr. HADWEN. Well, I do not think there is any definite evidence that plague is infectious.

But may I diverge from my argument, because it will really help the argument, to show you, by plague, what is really the fault of the situation?

Senator SHORTRIDGE. I understand that in the Middle Ages, in western Europe, whole populations were swept away and—I will use the word for the moment—the "disease" seemed to travel and go from village to village and from State to State, leaving in its track the dead in hundreds and thousands. It became epidemic. It seemed to travel and spread as the winds of heaven carried it.

Dr. HADWEN. That is quite true.

Senator SHORTRIDGE. I do not want to turn away too much, but it seems to me that that would indicate there was something in air, water, or earth, in heaven or earth or beneath the seas which could be communicated to a perfectly healthy person, producing a condition which we will call "disease."

Dr. HADWEN. Well, sir, you have quoted two countries in regard to plague; you have quoted India and England. I will explain both. In England at the time that the plague raged, according to the writings of Erasmus, they had at that time no floors for their houses. They slept on the floors upon straw, and when that became polluted they put on another layer of straw, and when that became polluted they put on another layer, until sometines they had as many as seven layers of straw, and they wallowed there in a horrible condition which was enough to produce any kind of disease.

The streets were so narrow that they could almost shake hands across them. In the common cemeteries where at that time the bodies were laid they buried them only a few feet below the surface of the soil, and people were compelled to close their windows on account of the stench.

Anything like baths were never thought of. In the big houses they had the cesspit in the hall.

The water was all drawn from shallow wells.

Fleet Street ran right down the center of London, and into it, with everything else imaginable, dead cats and dogs were thrown.

Plague was a condition of disease which nature brought about for the purpose of ridding the capital of this awful state of things, and the plague of Lndon did the rest.

Now, I turn to India. In India the plague lies almost entirely amongst the mud-built houses of the natives, and you will find no plague at all, hardly—it is most striking, this part—no plague at all, hardly, in the stone-built houses.

My friend, Dr. Charles Creighton, who I think is the greatest epidemiologist of the time, says the manner of the remedy for the plague in India is to get rid of the mud-built hovels, which are like rabbits' warrens, opening one into the other, and to build stone houses for the natives.

Senator SHORTRIDGE. Assuming all that to be true, does that get down to the essence of the question?

Dr. HADWEN. Very true; but I could not get to that until I had explained the other.

Senator SHORTRIDGE. I read a great deal about bubonic plague years ago—books innumerable—and I recall that it was claimed that this disease, the so-called bubonic plague, was carried by rats, because in sniffing along the rats inhaled or drew in what the books said was this germ of the bubonic plague and carried it far and wide; and I read of innumerable cases where it was claimed that the handling of a dead rat, or of a rat dying of bubonic plague, was the cause of the plague being communicated to a man, who fell sick immediately and died within a few days. I recall all that.

Dr. HADWEN. I will come to that. Now, in these mud-built houses they have these plague rats, and these plague rats are the great friends of the natives. They live with them, eat with them, and are, if you will, friendly.

Senator SHORTRIDGE. With great respect, they are vegetarians over there, are they not?

Dr. HADWEN. They take the dying rats——

Senator SHORTRIDGE. They do not believe in killing animals?

Dr. HADWEN. No; they do not believe in that at all.

Senator SHORTRIDGE. Exactly.

Dr. HADWEN. And these rats live with them. Now, these mud hovels open one into another, and they spread about like rabbit warrens right and left, until at last, owing to the pollution of the soil by the natives and the rifing of the soil poisons into the air of the hovels, the plague breaks out. The rats being the smaller creatures are the first to be attacked. The natives, directly they see the rats dying, out they go into the open and leave their mud hovels. They go right out in the open air. It is the only way to get free. They know that the place is doomed. The Hindoo knows well enough what the cause of the thing is, and it is not the Hindoo but it is our bacteriological scientists, who want to find a germ for everything, who, because the rats die, declare that the rat has a germ and a rat has a flea and the flea has a microbe, and all this kind of nonsense; instead of realizing that the rat has been the friend of man, and that by his death the native has learned what is the cause of the result, and the native is given a chance to escape. If they do not escape, this poison rises up from the ground always in low-lying, polluted parts, until, as you rightly say, the atmosphere is blown on, sweeping over the country, until all in that district become more or less affected by it.

Senator SHORTRIDGE. Do I understand you to say there is no such thing known to science as, for an example, what is called a typhoid germ?

Dr. HADWEN. I may say that there is no such thing as a typhoid germ.

Senator SHORTRIDGE. Or diphtheria?

Dr. HADWEN. Or diphtheria.

Senator SHORTRIDGE. What is it we see, that is seen under these powerful microscopes, which science—perhaps wrongly so called—says is a typhoid germ?

Dr. HADWEN. I know.

Senator SHORTRIDGE. What is it that the eye of man, aided by the microscope, sees?

Dr. HADWEN. A germ, undoubtedly.

Senator SHORTRIDGE. Is it not a fact—I am asking you to give us the benefit of your knowledge—is it not a fact that these things, which for the moment I will call typhoid germs, may be carried and cause typhoid fever to develop in a man a thousand miles from where it was first seen under the microscope? In a word, call them germs or what you will, is it or is it not a fact that disease, known as typhoid fever, can be scattered throughout a whole country?

Dr. HADWEN. No, sir.

Senator SHORTRIDGE. Is it not true?

Dr. HADWEN. No, sir.

Senator SHORTRIDGE. It is not?

Dr. HADWEN. No, sir; not an atom of truth in it.

Senator SHORTRIDGE. And that would hold good, I take it, as to every sort of germ?

Dr. HADWEN. As to every germ.

Senator SHORTRIDGE. Let me understand your position, for the record.

Dr. HADWEN. When I was walking the hospitals as a student, before this new theory came in, we always used to put our typhoid patients in the same wards with all the other patients. There never was known, in all my experience, any individual who took typhoid fever from typhoid patients being in that ward.

Senator SHORTRIDGE. Then it is not a fact, scientifically proved, that diseases can be carried through the mails and can be carried through clothing?

Dr. HADWEN. I do not believe a word of it.

Senator SHORTRIDGE. From one country to another?

Dr. HADWEN. I do not believe a word of it.

Senator SHORTRIDGE. Assuming inhuman and savage nations to be at war, one or the other can not communicate deadly diseases by transporting, so to speak, the germs of those diseases?

Dr. HADWEN. It is a theory. There is no scientific proof of it. Take the case of tuberculosis. In the hospital for consumption in London they have had thousands and thousands—I suppose hundreds of thousands—of cases of tuberculosis. If the germ was infectious, how is it that there never has been a single doctor or nurse in connection with that hospital that has ever been tuberculous.

Senator SHORTRIDGE. Take a given family where there are four or five children, and the baby gets sick or the little lad, with diphtheria or typhoid. Do I understand you that there is no danger whatever of the other children contracting the disease; that they can run about the house quite indifferent to the fact that one is perilously sick in its crib, and there is no danger?

Dr. HADWEN. There would be no danger from what is called germs.

Senator SHORTRIDGE. Well, what is it, then, that communicates or is communicated?

Dr. HADWEN. I have already explained, sir, that the whole thing is due to certain insanitary and unhygienic conditions producing atmospheric conditions which poison the constitution; and when you introduce plague, I was going on to say that according to the strength of the poison and the condition of the individual, so is the effect produced. If you have a poison sufficiently strong and the environment of the individual sufficiently weak, as in the cases I described in England and India, you will get plague, sweating sickness, black death. If you have an improvement in the sanitary conditions so that there is still poison but not of such a severe type, you will get a less severe condition of disease. You will, probably, get smallpox. Smallpox was the last of those fearful, virulent epidemics, after sweating sickness, black death, and the others had passed away. If you improve your sanitary conditions and you get a still lighter form of poison, then the conditions will show themselves in a milder kind of zymotic; and you will get measles, scarlet fever, and whooping cough, and all this kind of thing, all of the same nature, in different conditions. At the present time, these conditions, owing to the improved sanitary conditions, have been so changed, so reduced in strength, that the patients do not die in any numbers from scarlet fever and measles although scarlet fever and measles still come along. The death rate is lower than it has ever been, almost infinitesimal.

All of this goes to prove, I think fairly conclusively, that the origin of all these diseases is a chemical poison resulting from insanitary conditions affecting the soil and the atmosphere, and laying hold of an individual.

Senator SHORTRIDGE. There are two points there I want to have you develop a little further. Take the case of a family—perhaps there are ladies here who are the heads of such families—where the house is cleanly, everything in a fine, sanitary condition, and children well nourished, and all happy, and one of them comes from school and falls sick with typhoid fever. Is that disease generally supposed to be infectious?

Dr. HADWEN. No.

Senator SHORTRIDGE. Some diseases are supposed to spread in that way.

Dr. HADWEN. I do not think there is any evidence. It is put down in our textbooks that typhoid is an infectious disease, but I do not believe there is a scintilla of evidence of typhoid ever being contracted by an individual apart from polluted water; and another striking thing about that is that in all the epidemics which have occurred there has never been found a typhoid germ in the water which has brought about the disease.

Senator SHORTRIDGE. Now, one more question. I do not know what term to use, but I wish to speak of mosquitoes of a certain kind——

Dr. HADWEN. Anopheles mosquitoes.

Senator SHORTRIDGE (continuing). Which cause malaria. A mosquito bites a man and that man becomes sick. Does not that tend to indicate something along the germ theory?

Dr. HADWEN. No; in this way. The anapheles—I am giving the evidence of my medical opponents; they will agree with everything that I say in this matter—before the anapheles mosquito can produce malaria in a healthy man it must, primarily, feed upon a man who suffers from malaria. Therefore, if the mosquito must primarily feed upon an individual suffering from malaria, the question arises, Where did the man who supplies the mosquito with his pabulum get his malaria?

Senator SHORTRIDGE. It is the question whether the chicken or the egg was first?

Dr. HADWEN. I can say the same thing; where does it come from? Take my own district—well, I am not there now; I am in the city of Gloucester; but I was in another district. The whole of that district where I lived, from Bridgewater to Edgemoor, was one marshy district, and the county council determined to drain it. Malaria was rampant. The whole district was drained. The consequence was that with the drainage of the district malaria disappeared. We have not had a solitary case of malaria there, I suppose, in 20 years. The anapheles mosquitoes are there, and if it was dependent upon feeding upon one another, there would have been no end to it. We got rid of the source of the trouble, the miasma rising from the undrained district. These bacteriologists who want to claim that the anapheles mosquito is the cause of malaria, advise the draining of swamps in order to get rid of mosquitoes. Of course they get rid of what is the real cause, as our forefathers knew a couple of centuries ago. You get rid of the cause and you get rid of the disease. I can not prove this, but I expect that a mosquito is something like a bluebottle fly that lays its eggs in a piece of effete matter, upon which they feed, and finally succeed in bringing up that effete matter and restoring it, by feeding upon it, to a healthy condition, and I guess the mosquitoes do exactly the same thing.

Senator SHORTRIDGE. You think the mosquito has some purpose in the world?

Dr. HADWEN. He has some purpose in the world, just as the fly has. It is a rare thing, in my opinion, that a mosquito stops long enough on anybody to produce malaria or anything else; but the whole thing about it is exaggerated to a most fearful extent. The truth about it is that it is due to the malarial poison, resulting from the rising of the miasma from this swampy ground, producing the mischief.

Senator SHORTRIDGE. Yes; and it is a fact, is it not, that a perfectly healthy man may be inoculated by the bite, or from the bite, of a mosquito?

Dr. HADWEN. I believe so.

Senator SHORTRIDGE. Whereby he contracts the disease known as malaria?

Dr. HADWEN. Yes.

Senator SHORTRIDGE. And dies of it?

Dr. HADWEN. Yes; I believe so. I am quite prepared to admit that. That does not touch my view at all.

But you referred to plague. I can refer you to the reports of Dr. Hawkes, of, I believe it was, Simla—anyhow, they were from the hospital over which he was medical attendant—where he had over 500 patients, and he actually took the plague fleas and put them on his patients, and his nurses were covered with them again and again, and yet none of them took the plague. You can get the plague from your original source.

Senator SHORTRIDGE. That is perhaps an exceptional case. Take leprosy, for instance.

(At this point there was a call for a quorum on the floor of the Senate, and the subcommittee took a recess for 10 minutes, at the end of which time the session was resumed.)

Senator SHORTRIDGE. Doctor, I think you have expressed yourself quite fully. I gather from what you have stated that you wish to be understood as saying that vivisection as practiced is immoral?

Dr. HADWEN. Yes.

Senator SHORTRIDGE. And, second, that it is not effective as claimed by those who favor it?

Dr. HADWEN. It is unscientific and misleading.

Senator SHORTRIDGE. Yes. The committee thanks you very much for your speech.

Dr. HADWEN. There is very much more evidence that I would like to have given. I should like to have shown from the evidence of vivisectors themselves that the whole of the theory has been exploded by recent investigations, and to have proved my case up to the hilt; but I presume I shall not, now.

Senator SHORTRIDGE. I think this is about all the time the subcommittee can be expected to give at this time.

Dr. HADWEN. I can only thank you very much for your courtesy and the impartial way in which you have acted while you have been chairman, this morning and this afternoon.

Senator SHORTRIDGE. We are indebted to you.

Dr. HADWEN. I shall go away with the very best of recollections.

Senator SHORTRIDGE. Thank you for your very interesting statement. The committee would have liked to pursue the matter further.

Dr. HADWEN. I hope I may have another opportunity to address you.

Senator SHORTRIDGE. I hope you may have that opportunity.

Dr. HADWEN. I trust that your report on the subject will be favorable to us in our efforts to get rid of one of the most cruel practices in the civilized world, and that it may be carried effectually.

Dr. GEORGE W. MCCOY. Mr. Chairman, may I file a single page of typewriting calling attention to previous hearings, and to the last hearing, which reviewed the whole subject?

Senator SHORTRIDGE. Very well. We will have other hearings, and hear both sides, if there be two sides.

(The memorandum submitted by Dr. McCoy is here printed in the record as follows:)

MEMORANDUM—SENATE BILL 758.

Those of us who are interested in the advance of biological science, particularly the medical branches thereof, naturally disagree with views that are expressed by the proponents of this bill, S. 758.

I do not feel justified in taking the time of the committee to specifically meet the various points raised unless the committee especially desires this.

I am prompted to adopt this course because the subject has been very fully gone into in three previous hearings, the reports of which are available, as follows:

Hearing on the bill (S. 1552) for the further prevention of cruelty to animals in the District of Columbia, May 26. 1896, 154 pages.

Hearing before the Committee on Agriculture and Forestry on S. 3737, a bill providing for an investigation into the extent and conditions of the practice of experimentation on living animals, June 19, 1916, 38 pages.

Hearings before the subcommittee of the Committee on the Judiciary on S. 1258, a bill to prohibit experiments upon living dogs in the District of Columbia or the Territorial or insular possessions of the United States, November 1, 1919, 185 pages.

It will be seen that senatorial committees have taken a total of about 377 pages of testimony on this subject, and I do not believe there is anything to be added to what has already been introduced. The District of Columbia has of course an excellent law for the prevention of cruelty to animals; this will naturally prevent abuses which might otherwise occur.

In conclusion, I want to repeat the invitation, made before these senatorial committees, as recorded in the reports of the hearings of 1916 and 1919, to our friends across the table, that they visit the hygienic laboratory at any time that suits their convenience.

It is a pleasure to state that when they visited us in the past, or when the inspectors of the Humane Society called, they found no occasion to direct our attention to anything amiss with respect to the care and treatment of animals.

GEORGE W. MCCOY, M. D.

(Thereupon, at 3.45 o'clock p. m. the subcommittee adjourned subject to the call of the chairman.)

(The following communications were received and submitted to the subcommittee and, by request, are printed as a part of the hearing:)

UNIVERSITY OF CALIFORNIA,
OFFICE OF THE PRESIDENT,
Berkeley, July 6, 1921.

MY DEAR SENATOR SHORTRIDGE: My attention has just been called to a bill introduced into the Senate by Mr. Myers prohibiting experiments upon living dogs in the District of Columbia or in any of the territorial or insular possessions of the United States. I venture to write to express how dependent medical discovery is upon animal experimentation. We have just signally defeated by vote of the people in this State similar measures. The whole movement seems to me to rest upon misunderstanding of the humanity and consideration with which such work is carried on, and upon sentimental considerations. If this bill were to pass, it would not only handicap medical research work existing in the District of Columbia, but it would also embarrass the Medical School and Bureau of Science in the Philippine Islands, as well as other Territories, and it is probably designed as an entering wedge in a campaign which does not cease, because, as I understand it, it is one subsidized by an endowment.

I am writing to you in the understanding that the bill has been referred to a committee of which you are yourself chairman.

Sincerely, yours,

DAVID B. BARROWS.

CALIFORNIA STATE BOARD OF HEALTH,
Sacramento, July 8, 1921.

Hon. SAMUEL M. SHORTRIDGE,
United States Senate, Washington, D. C.

DEAR SIR: There has been a bill introduced in Congress by Mr. Myers (S. 758) which if passed will prohibit the use of dogs for experimental purposes.

You will probably remember at the last election that California voted on a proposed constitutional amendment prohibiting vivisection. This was decisively defeated, you will remember.

If this bill passes, prohibiting the animal experimentation of the United States Public Health Service, it would be very detrimental to the further advancement of medical science and indirectly for the public health of the people of this country.

Very truly, yours,

W. M. DICKIE, *Secretary.*

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA,
San Diego, Calif., July 8, 1921.

Hon. SAMUEL M. SHORTRIDGE,
Washington, D. C.

MY DEAR SENATOR: Your medical constituents of California feel that bill S. 758 is a measure against public health and should be voted against, as was done by the people of California at the last election.

Yours, truly,

JOHN C. YATES.

COLFAX SCHOOL FOR THE TUBERCULOUS,
Colfax, Calif., July 5, 1921.

Senator SAMUEL M. SHORTRIDGE,
United States Senate, Washington, D. C.

DEAR SENATOR SHORTRIDGE: As a member of the California State Board of Health I am writing you regarding Senate bill 758 which will come before the committee of which you are chairman. I am inclosing a copy of this bill with my letter. If this bill should become a law it would interfere very materially with experimental work which is being carried on for the purpose of the prevention and cure of disease. It would be the opening wedge to other legislation which would eventually prohibit all experiments upon animals. The progress of medical science is absolutely dependent upon animal experimentation. Because of the great menace of Senate bill 758 to the health of our citizens I trust you will exert your influence against it.

Respectfully submitted.

ROBERT A. PEERS,
Member of California State Board of Health.

CALIFORNIA STATE BOARD OF HEALTH,
OFFICE OF THE PRESIDENT,
San Francisco, July 8, 1921.

Senator SAMUEL M. SHORTRIDGE,
United States Senate, Washington, D. C.

MY DEAR SENATOR SHORTRIDGE: In the matter of "The dog bill," Senate bill No. 758, which comes before the Senate subcommittee of which you are chairman, allow me to take the liberty of calling your attention to the fact that the advocates of this bill proclaim it to be the entering wedge for the complete abolition of the use of animals for experimental purposes.

You will remember in the recent California election a similar antivivisection bill was overwhelmingly defeated at the polls.

All the advances in the medical science depend upon scientific research and to deprive the universities of the country and others interested in the progress of medical science of one of the very most important tools with which they work, would be indeed a disaster. I feel that it is only necessary to call this fact to your attention to elicit your efforts for the defeat of this pernicious measure.

Yours, very respectfully,

GEORGE E. EBRIGHT, *President.*

UNIVERSITY OF CALIFORNIA MEDICAL SCHOOL AND HOSPITALS,
San Francisco, July 11, 1921.

Hon. Senator SAMUEL M. SHORTRIDGE,
United States Senate, Washington, D. C.

MY DEAR SENATOR SHORTRIDGE: We have recently been advised that Senate bill 758, commonly known as the "dog bill," is now under consideration by a Senate subcommittee of which you are the chairman.

Doubtless you know that this bill is proclaimed by its advocates to be the entering wedge for the complete abolition of the use of animals for experimental purposes and is the forerunner of an endeavor to have similar legislation passed by the legislative bodies of the various States.

On behalf of the faculty of the University of California Medical School, may I ask you to report unfavorably on the passage of this bill?

If passed, it will seriously handicap any investigation or experimentation in which the use of dogs is involved, and the faculty desires to invite your attention to the

fact that such prohibition will be a serious handicap to the advancement of medical science.

We therefore hope that you will urge that this bill, a copy of which is inclosed, does not pass.

Very respectfully,

L. S. SCHMITT, M. D.,
Executive Secretary.

LELAND STANFORD JUNIOR UNIVERSITY,
SCHOOL OF MEDICINE,
San Francisco, Calif., July 11, 1921.

Senator SAMUEL SHORTRIDGE,
Washington, D. C.

HONORABLE SENATOR: I am inclosing copy of Senate bill 758, introduced by Mr. Myers, which has been referred to your committee. This bill prohibits any and all scientific experiments upon living dogs and is introduced by the antivivisectionists as an entering wedge in their effort to do away with all animal experimentation.

It is hardly necessary for me to point out that the great progress in medicine that has been made in the course of the last 50 years has been, to a very great extent, due to scientific experiments on animals. There is no question that the continuation of this experimental work is absolutely essential to permit proper development, not only in medicine but in the biological sciences in general in the future.

It will be absolutely suicidal to interfere in any way with properly conducted investigation of this kind. So far as the dog is concerned, he is for many reasons the most available animal for work of this character and there are a considerable number of problems that can not be investigated unless by the use of this particular animal. It would be doing the dog also a great unkindness not to permit any scientific investigation upon him, because as a result of these experiments the dog frequently is as much benefited as humanity. It would not be possible to control a considerable number of disease of dogs as we do if it had not been for this experimental work.

It should also be remembered that one of the most common and most dreadful diseases of dogs is hydrophobia, which disease, as you know, is readily transmitted to human beings by the bite of this animal and causes untold and indescribable suffering in persons so afflicted. It is entirely as a result of animal experimentation that Pasteur discovered his well-known and exceedingly efficacious treatment of hydrophobia.

Still, there is as yet much that we do not know about this disease. As a matter of fact, the actual infectious agent of it has not been discovered. It would be inhuman to shut off any further avenues of approach to the investigation of this question by preventing proper experiments upon dogs.

I sincerely hope, therefore, that your committee, in the interest of the human race and for the animals themselves, will make an unfavorable report upon this ill-advised measure.

Very respectfully,

DR. WM. OPHULS, *Dean.*

STANFORD UNIVERSITY,
Stanford University, Calif., July 18, 1921.

Senator SAMUEL SHORTRIDGE,
Washington, D. C.

MY DEAR SENATOR SHORTRIDGE: My attention has been called to Senate bill 758, which I understand is known as the "dog bill," which has been referred to a subcommittee of which you are chairman.

This is a subject about which there has been considerable controversy. You are familiar with the fact that we had a state-wide debate in California upon the subject of animal experimentation and that the voters of the State decided by a majority of more than two to one for scientific medicine and against the antivivisection advocates. There was a pooling of all possible elements against scientific medicine, and yet when this was put to our people the result was as indicated. I realize your firm interest in matters of science and education and if you wish for further information in handling this particular measure, I should be glad to do what I can in the matter.

I am inclosing for your brief consideration the resolution that was recently passed by the American Association for the Advancement of Science. It is simply one indication of hundreds that can be supplied to you of the attitude and interest of the scientific world and of the medical profession in this subject of the protection of human welfare by studies upon animals. I am also inclosing an article by Ernest H.

Baynes on "The Truth About Vivisection," which appeared in the July number of the Woman's Home Companion.

The attempt is being made to begin the destruction of scientific medicine by appealing to that natural sympathy which we all have for the dog. I trust that we can rely upon you to see that there is no entering wedge which will eventually lead to the downfall of the structure of scientific medicine that is being built up in the United States.

With kindest regards, sincerely, yours,

RAY LYMAN WILBUR.

UNIVERSITY OF CALIFORNIA, COLLEGE OF AGRICULTURE,
AGRICULTURAL EXPERIMENT STATION,
Berkeley, July 19, 1921.

Hon. SAMUEL M. SHORTRIDGE,
United States Senate, Washington, D. C.

MY DEAR SENATOR SHORTRIDGE: I am inclosing herewith a copy of Senate bill 758, known as the "dog bill," which, if passed, would have a very serious effect on medical and agricultural research. This bill is proclaimed by its advocates to be the entering wedge for the complete abolition of the use of animals for experimental purposes. As director of this agricultural experiment station I feel it my duty to urge that you use your efforts to defeat this measure. Doubtless the value of animal experimentation to medicine and human health has been brought to your attention, but, in addition, I desire to call to your attention the value that animal experimentation has been to agriculture and human welfare, entirely apart from the field of medical practice.

While it is true that dogs are not used extensively for experiments by the agricultural experiment stations, it is believed that Senate bill 758 is a step in the wrong direction, because the principle is the same whether dogs or guinea pigs or cattle are used.

Permit me to list the following:

1. Recent discoveries concerning nutrition have shown that chemical analysis alone can not be depended upon to determine the value of various foodstuffs. In order to study the problems of nutrition and to determine the wholesomeness and purity of foods actual feeding experiments on experimental animals are necessary. The discovery of vitamines, which was absolutely necessary in the food of young children and young animals, was worked out by animal experimentation.

2. If animal experimentation were prohibited the cattle men and dairy business would be injured. Without the use of experimental animals—

(*a*) Blackleg vaccine and aggressin could not be tested for purity.

(*b*) Anthrax vaccine and serum could not be tested for potency.

(*c*) Experiments in the identification of poisonous plants on our ranges by feeding small animals would cease.

(*d*) Experiments to stop abortion and sterility in cows would be prohibited.

(*e*) Nutrition investigations to show value of dairy products would cease.

(*f*) Progress in the control of bovine tuberculosis would be hampered.

3. Swine breeders should be especially interested in defeating Senate Bill 758, because without the use of experimental animals—

(*a*) Antihog cholera serum and virus could not be tested.

(*b*) Our States would become the market for injurious and worthless sera and vaccines.

(*c*) Even the hog-feeding experiments at the University Farm, Davis, might be decided to be illegal, if the laws more broadly worded are enacted in this State.

4. The interests of poultry men are protected by animal experimentation. The poultry pathological work of the University conducted at Davis and Petaluma would be discontinued if experiments on animals are prohibited. Nutrition experiments to show the value of eggs and poultry as human foods would be interrupted.

5. Orchardists, fruit interests, and canners have been benefited by animal experimentation. If such experimentation is prohibited nutrition experiments to show the significance of fruits in the human diet can not be started. The canning industry has been saved millions of dollars, protected from the dangers of botulism and put on a safe basis by animal experimentation.

Sincerely yours,

C. M. HARING,
Director of Experiment Station.

UNIVERSITY OF CALIFORNIA, MEDICAL SCHOOL,
OFFICE OF THE DEAN,
July 11, 1921.

Hon. Senator SAMUEL M. SHORTRIDGE,
United States Senate, Washington, D. C.

MY DEAR SENATOR SHORTRIDGE: The members of the medical school faculty of the University of California are much disturbed by the Senate bill 758, commonly known as the "dog bill," which we understand is under consideration by a subcommittee of the Senate of which you are the chairman.

I wish to point out that this bill is introduced by antivivisection societies of several States and its supporters admit that they aim to abolish animal experimentation or vivisection of every kind. A strong State society in California, you will recall, put a similar measure on the ballot and it was beaten by an overwhelming majority. These same people are now trying to use the strongest appeal to sentimental feelings by proposing a bill limited to the use of the dog. They always use this animal in most of their arguments, which show a complete lack of information as to the value and necessity of the use of animals in laboratory work and in the teaching of medicine.

It would be nothing short of a calamity to the medical profession to have denied it the right to use dogs in certain physiological experiments. For example, it is an easy matter to teach students the art of vascular surgery and the transfusion of blood by the use of dogs under surgical anæsthesia. This life-saving measure is usually an emergency measure, and is successful in the hands of those who are familiar with the technique. Again, in this laboratory we are doing work on the diet factors which influence the regeneration of the red blood pigment, hemoglobin. These experiments are important in the treatment of anemia and similar diseases. Accurate experiment of this sort can only be done on the dog, as other animals are unsuitable for this particular kind of work. I could name a host of other similar experiments which can not be done successfully on other animals and require the use of dogs.

I wish to express to you the serious menace which we believe lies in this bill and our conviction that this bill should not be passed. I speak not only for myself but for all members of the faculty of this medical school and the large number of its undergraduate students and medical alumni. We hope that your committee will report unfavorably on the passage of this bill.

Very respectfully, yours,

GEORGE H. WHIPPLE,
Dean of the Medical School.

SAN JOSE, CALIF., *July 15, 1921.*

Senator SAMUEL M. SHORTRIDGE,
Washington, D. C.

DEAR SIR: I am inclosing herewith for your perusal Senate bill 758, known as the "dog bill."

While no one likes to torture, or even experiment upon, a dog, very few people have taken the pains of investigating the pounds in the various cities or to learn how the dogs are disposed of when not recovered from the pounds. If these dogs, instead of being shot, could be used for saving of human lives, as they are at times now, what a benefit it would be to the human family.

This bill 758 is just an introductory bill as to the use of the dog for experimental purposes. The next bill, if this one passes, will have the argument that since the District of Columbia and the Territories and insular possessions of the United States need such a law, then the whole United States must have it. The dogs of the Territories are no different than the dogs of the United States. The few dogs that are used nowadays are absolutely essential, and humane treatment is given these animals in every case, the exception only being some particular individual whose irresponsible acts throw unjust criticism on the others.

If there is one outstanding beacon light it is the wonderful progress of medicine and surgery during the last decade, and anything to impede its advancement injures the whole human family.

I intend to present this whole matter to the League for the Conservation of Public Health, of which I am the director for this district, and I hope that we may count on your strong support in passing this bill.

Gratefully and sincerely, yours,

D. A. BEATTIE, M. D.

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